

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A method for monitoring the status of a network comprising:

computing a plurality of measures of network health, including a sum of unrouted ~~traffic permanent-virtual-circuits~~, a sum of ~~traffic permanent-virtual-circuits~~ whose cost exceeds a prescribed multiple of an optimal route cost, and a sum of ~~traffic permanent virtual-circuits~~ off an optimal path;  
and

comparing said measures of network health to a threshold value and selecting a restoration route from a plurality of stored restoration routes.

2. (Original) The method for monitoring the status of a network of claim 1, which further comprises:

restoring circuits at a rate parameterized by a value P and observing the behavior of the network; and

increasing the value P in the network to decrease the time customers experience unrouted traffic.

3. (Original) The method for monitoring the status of a network of claim 1, which further comprises:

monitoring said measures to sense when bandwidth needs to be added to the network.

4. (Original) The method for monitoring the status of a network of claim 1, which further comprises:

derating each edge of the network to have capacity of a predetermined fraction of real capacity;

computing said plurality of measures of network health to identify unrouted, off optimal, and seriously misrouted traffic;

determining if the measures are over a specified value and if so, then adding capacity to the network.

5. (Currently amended) A system for monitoring the status of a network, comprising:

a database storing possible restoration routes;

a computer for computing a plurality of measures of network health, including a sum of unrouted traffic ~~permanent-virtual-circuits~~, a sum of traffic ~~permanent-virtual-circuits~~ whose cost exceeds a prescribed multiple of an optimal route cost, and a sum of traffic ~~permanent-virtual-circuits~~ off an optimal path; and

said computer comparing said measures of network health to a threshold value and selecting a restoration route from said database storing restoration routes.

6. (Original) The system for monitoring the status of a network of claim 5, which further comprises:

means for restoring circuits at a rate parameterized by a value P and observing the behavior of the network; and

means for increasing the value P in the network to decrease the time customers experience unrouted traffic.

7. (Original) The system for monitoring the status of a network of claim 5, which further comprises:

means for monitoring said measures to sense when bandwidth needs to be added to the network.

8. (Original) The system for monitoring the status of a network of claim 5, which further comprises:

means for derating each edge of the network to have capacity of a predetermined fraction of real capacity;

said computer computing said plurality of measures of network health to identify unrouted, off optimal, and seriously misrouted traffic;

means for determining if the measures are over a specified value and if so, then adding capacity to the network.